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INTERMOUNTAIN FOREST AND RANGE EXPERIMENT STATION
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Ogden, Utah February 1959

SUMMARY OF FOREST INSECT DETECTION REPORTS SUBMITTED TO THE MISSOULA FOREST INSECT LABORATORY IN 1958

By Archibald Tunnock, Jr., Entomologist

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Prepared By The
Missoula Forest Insect Laboratory
Missoula, Montana

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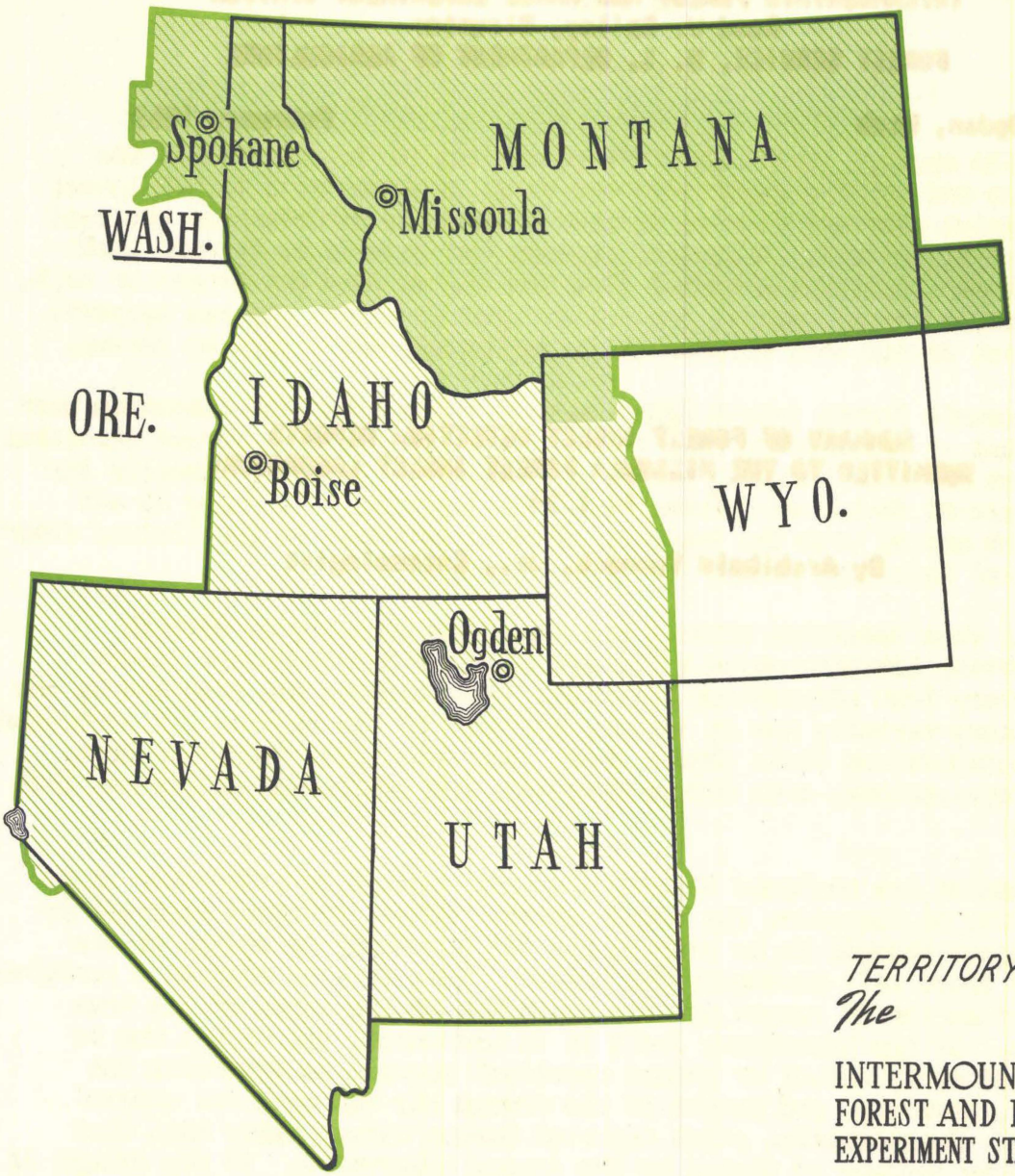

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INTERMOUNTAIN FOREST AND RANGE EXPERIMENT STATION

The MISSOULA FOREST INSECT LABORATORY is a field unit of the Intermountain Forest and Range Experiment Station at Ogden, Utah. The Laboratory conducts forest insect research, surveys forest insect outbreaks, and gives technical advice on cooperative insect control programs in Montana, northwestern South Dakota, northwestern Wyoming, northern Idaho, and northeastern Washington.

The functions are conducted in the remaining station territory by staff entomologists at Ogden, and Boise, Idaho.

SUMMARY OF FOREST INSECT DETECTION REPORTS SUBMITTED TO THE MISSOULA FOREST INSECT LABORATORY IN 1958

By Archibald Tunnock, Jr., Entomologist

Detection surveys locate abnormal conditions of forest insects and diseases and usually constitute the first evidence of a forest insect infestation that may require further evaluation to determine the need for applied control. Detection surveys can be made by trained technicians in a systematic manner from the air or from the ground or both. Also, other forest workers are relied upon to report any new symptoms of insect damage they observe while performing their regular duties.

The Missoula Forest Insect Laboratory is responsible for detection surveys; but it necessarily must depend also upon national forest personnel and that of other Federal, state, or industrial forestry agencies for much initial detection information. The Laboratory is ready at all times to assist with the training of this personnel in the limited entomological knowledge needed for these surveys.

Reports from detection surveys are submitted directly or through appropriate administrative officials to the Missoula Forest Insect Laboratory from cooperating agencies. Many reports are received by the Laboratory verbally and by letter, but most of the reports are presented on a standardized field report form. The form lists location, host, local environment, tree damage symptoms, and conditions associated with damage.

The reports are analyzed immediately upon receipt by Laboratory entomologists to determine the causal agent. Often, infested material or the insect thought to be responsible for the death or damage to the forest trees will accompany the report. This routine assures a positive identification of insect species which may be the cause of the tree damage. If the Laboratory feels it is warranted, the report may be followed up by aerial or ground appraisal surveys to determine the extent, severity, and nature of the damage and the need for control action. Occasionally, plant material having damage other than that caused by insects is routed to the Insect Laboratory. If the damage is diagnosed as non-insect caused, the material is promptly forwarded by the Laboratory to appropriate specialists.

The location of each forest insect outbreak is marked on a regional map (Fig. 1). The numbers on the map agree with the specific insects numbered in table 1. The map aids in summarizing individual insect infestation patterns throughout the region. A file of the detection reports is also kept. At the end of the season they are organized into a report, such as this, so that a record may be kept of the insect species

involved from year to year. While most of the detected insect damage is of minor importance, nearly all of the serious outbreaks of the past have been originally disclosed by insect detection surveys and their reports either by technicians of the Laboratory or of cooperating agencies.

Table 2 lists the individual reports of insects detected in 1958 together with the names of the observers and agencies responsible for them. The number of reports sent in by each agency are tabulated in table 3. All the insect species and the number of times they were reported are summarized in table 1.

Several of the forest insects detected were of especial interest from a taxonomic viewpoint. Mr. C. E. Stilwell of the Coeur d'Alene National Forest in Idaho made an interesting discovery when he observed a flight of Geometrid moths in a stand of ponderosa pine and Douglas-fir. The moths were identified as Venusia duodecimilineata (Pack.) which at present has never been recorded as a forest pest. Within the Rexford Ranger District, Kootenai National Forest, Montana, the moth Laspeyresia fletcherana was found feeding on Douglas-fir by G. A. Verdal. This was the first host record and first U. S. record for the species.

Table 1 indicates that the Douglas-fir bark beetle was observed more often (15 times) than all other insects reported. This increased number of Douglas-fir bark beetle reports indicates a cyclic upturn in the population and heavier infestations are expected next year. It is of interest to note that 39 different insects are listed in table 1. Many of the insects are of secondary importance and were probably hard to detect. This indicates that people are becoming more conscious of forest insect pests, thus, more observant, which greatly aids in the discovery of new species or potential epidemics.

Table 1.--Occurrence of forest insects mentioned in detection reports submitted to the Missoula Forest Insect Laboratory in 1958

Number	Common name	Order	Family	Genus and species	No. of times reported
1	Cooley spruce gall aphid	Homoptera	Phylloxeridae	Chermes cooleyi Gill	3
2	Douglas-fir bark beetle	Coleoptera	Scolytidae	Dendroctonus pseudotsugae (Hopk.)	15
3	Mountain pine beetle	"	"	Dendroctonus monticolae Hopk.	6
4	A Geometrid moth	Lepidoptera	Geometridae	Venusia duodecimilineata (Pack.)	1
5	A secondary bark beetle	Coleoptera	Scolytidae	Pityogenes sp.	1
6	Alder flea beetle	"	Chrysomelidae	Altica ambiens (Lec.)	1
7	Aphids (undetermined)	Homoptera	Aphididae	- -	3
8	A resin midge	Diptera	Itonididae	Retinodiplosis sp.	1
9	A needle midge on D-fir	Coleoptera	-	- -	1
10	A sawfly	Hymenoptera	Pamphiliidae	- -	1
11	Engelmann spruce beetle	Coleoptera	Scolytidae	Dendroctonus engelmanni Hopk.	4
12	Oregon pine engraver	"	"	Ips oregoni (Eichh.)	2
13	Spruce budworm	Lepidoptera	Tortricidae	Choristoneura fumiferana (Clem.)	5
14	Lodgepole pine beetle	Coleoptera	Scolytidae	Dendroctonus murrayanae Hopk.	2
15	Pitch moths (undetermined)	Lepidoptera	-	- -	2

Table 1.--Occurrence of forest insects mentioned in detection reports submitted to the Missoula Forest Insect Laboratory in 1958 (continued)

Number	Common name	Order	Family	Genus and species	No. of times reported
16	Rusty tussock moth	Lepidoptera	Lymantriidae	Notolophus antiqua (L.)	2
17	Spruce mites	Acarina	Tetranychidae	Oligonychus ununguis (Jacobi)	3
18	Ips sp.	Coleoptera	Scolytidae	Ips sp.	1
19	Pine needle scale	Homoptera	Coccidae	Phenacaspis pinifoliae (Fitch)	5
20	Spruce needle miner	Lepidoptera	Olethreutidae	Taniva albolineana (Kearf.)	1
21	A looper on alpine fir	"	-	- -	1
22	Blackheaded budworm	"	Tortricidae	Acleris variana (Fern.)	1
23	An Olethreutid moth	"	Olethreutidae	Laspeyresia fletcherana (Kearf.)	1
24	Western pine beetle	Coleoptera	Scolytidae	Dendroctonus brevicomis Lec.	2
25	Scarab beetles (undetermined)	"	Scarabaeidae	- -	3
26	The fir engraver	"	Scolytidae	Scolytus ventralis Lec.	1
27	Grasshoppers	Orthoptera	Locustidae	- -	1
28	A sawfly	Hymenoptera	Tenthredinidae	Neodiprion sp.	1
29	A horntail	"	Siricidae	-	1
30	A mealy bug	Homoptera	Coccidae	-	2

Table 1.--Occurrence of forest insects mentioned in detection reports submitted to the Missoula Forest Insect Laboratory in 1958 (continued)

Number	Common name	Order	Family	Genus and species	No. of times reported
31	A scarab beetle	Coleoptera	Scarabaeidae	Dichelonyx backii Kby.	2
32	A Cerambycid beetle	"	Cerambycidae	- -	1
33	Larch sawfly	Hymenoptera	Tenthredinidae	Pristiphora erichsonii (Hartig)	1
34	Squash bugs	Hemiptera	Coreidae	- -	1
35	A needle mining moth on Juniper	Lepidoptera	-	- -	1
36	Black pine leaf scale	Homoptera	Coccidae	Nuculaspis californica (Coleman)	1
37	Larch casebearer	Lepidoptera	Coleophoridae	Coleophora laricella (Hbn.)	2
38	Pine tip moths	"	Olethreutidae	Rhyacionia sp.	3
39	Engraver beetles	Coleoptera	Scolytidae	- -	1

Table 2.--Forest insect detection reports submitted to the Missoula Forest Insect Laboratory in 1958

Report no.[1] or source	Date of examination	Locality	Observer	Agency[2]	Causal Agent	Host[3]
		BEAVERHEAD N. F., MONTANA				
26	1/6/58	Canyon Cr. near Melrose	B. T. Doyel	USFS	Spruce gall aphid	DF
		BITTERROOT N. F., MONTANA				
AR	9/24/58	Rye Creek (T. 3N.,R.20W.)	M.A.Amundson	"	D-fir bark beetle	DF
		CLEARWATER N. F., IDAHO				
44	7/31/58	Orogrande Cr. dr. (T.38N.,R.7E.)	M. Koppang	"	Mountain pine beetle	WWP *
M	8/4/58	Sheep Mt. & Skull Crs.	E. J. Grambo	"	" " "	" **
		COEUR D'ALENE N. F., IDAHO				
9	3/28/58	Evans Cr. (T.47N.,R.2W.)	C.E.Stilwell	"	Venusia duodecimilineata (Pack.) - Geometridae	In flight
15	May '58	Searchlight Cr.	W.W.Larsen & D. R. Howard	"	D-fir bark beetle	DF
30	5/27/58	Laverne Cr. east of Cabin Cr.	Kingston R. D. personnel	"	" " "	"
34	July '58	Steamboat Cr. (T.51N.,R.2E.)	L. O. Smith	"	Pityogenes beetles	WWP *
46	Aug. '58	Bear Cr. (Sec.14,T.49N.,R.2E.)	C.E.Stilwell	"	Alder flea beetle	Willow

Table 2.--Forest insect detection reports submitted to the Missoula Forest Insect Laboratory in 1958 (continued)

Report no.[1] or source	Date of examination	Locality	Observer	Agency[2]	Causal Agent	Host[3]
		COEUR D'ALENE N. F., IDAHO (cont.)				
54	11/11/58	Ross Gulch (Sec.23,T.48N.,R.1E.)	L. O. Smith	USFS	Aphid and resin midge (Retinodiplosis)	PP
55	Nov. '58	Fisher Cr.(Sec.15,T.50N.,R.1W.)	"	"	Needle midge	DF
		COLVILLE N. F., WASHINGTON				
8	April '58	Sec. 18, T.31N.,R.42E.,WM.	H. R. Cheyney	"	Sawfly (Pamphiliidae)	PP
28	June '58	Barnaby Cr. (T.35N.,R.35)	"	"	Engelmann spruce beetle	ES
39	July '58	Vulcan Curlew Rd.	"	"	D-fir bark beetle	DF
		CUSTER N. F., MONTANA				
47	Aug. '58	Stillwater River (T.7S.,R.14E.)	J. C. Crupper	"	Engelmann spruce beetle	ES **
46	10/23/57	Long Pines Div., Sioux R. D.	W. L. Evans	"	Pine tip moths	PP *
FR	7/10/58	" " " " "	"	"	" " "	PP
FR	8/8/58	" " " " "	"	"	" " "	PP *
		DEERLODGE N. F., MONTANA				
48	Aug. '58	Butte R. D.	G. Stern	"	Ips oregoni	LPP
31	6/11/58	Boulder R. D.	J. M. Johnson	"	Spruce gall aphid	DF

Table 2.--Forest insect detection reports submitted to the Missoula Forest Insect Laboratory in 1958 (continued)

Report no.[1] or source	Date of examination	Locality	Observer	Agency[2]	Causal Agent	Host[3]
		FLATHEAD N. F., MONTANA				
51	8/9/58	Spotted Bear River	C. S. Shaw	USFS	Spruce budworm	DF & AF **
M	8/7/58	Between Soup & Goat Crs.	T. T. Terrell	"	D-fir bark beetle	DF **
		GALLATIN N. F., MONTANA				
13	4/24/58	Big Cr. (T.65.,R.7E.,Sec.17)	D. Nelson	"	D-fir bark beetle & Engelmann spruce beetle	DF & ES **
56	9/24/58	Beaver Cr. Campground	T. T. Terrell	"	Lodgepole pine beetle	LPP *
57	9/24/58	" " "	"	"	Pitch moth (undetermined)	LPP *
36	July '58	Beaver Cr. & So. of Madison R.	G. P. Wetzsteon	"	Mt. pine beetle	LPP *
50	Aug. '58	Sec. 36, T.13S.,R.4E.	E. C. Slusher	"	Rusty tussock moth	LPP **
53	Sep. '58	Horse & Cottonwood Crs.	E. M. Welton	"	Pitch moth (undetermined)	LPP
AR	8/15/58	Sage, Monument, & Buffalo Horn Crs.	C. R. Joy	"	Mt. pine beetle	LPP
M	10/15/58	Mill Cr. drainage	D. W. Beaman	"	Spruce mites & lodgepole pine beetle	DF * LPP *
M	9/24/58	West Yellowstone	T. T. Terrell	"	Rusty tussock moth	AF *

Table 2.--Forest insect detection reports submitted to the Missoula Forest Insect Laboratory in 1958 (continued)

Report no.[1] or source	Date of examination	Locality	Observer	Agency[2]	Causal Agent	Host[3]
		HELENA N. F., MONTANA				
AR	8/8/58	Beartrap Gulch	P. Schlamp	USFS	D-fir bark beetle	DF
		KANIKSU N. F., MONTANA				
37	7/23/58	Johnson Cr., (T.27N.,R.2E.)	M. Evenson	"	D-fir bark beetle	DF
59	12/4/58	Lightning & Granite Crs. (T.56-57N.,R.2-3E.-T.55N.,R.1-2E.)	T. Schenarts	"	Engraver beetles	GF
		KOOTENAI N. F., MONTANA				
4	Feb. '58	Pipe Cr. (T.31N.,R.31W.)	L. Knowlen	"	Ips	PP
14	3/7/58	Raymond Mt. (T.60N.,R.3E.)	L. Smith	"	Mt. pine beetle	WWP
17	May '58	Troy R. S.	?	"	Pine needle scale (Phenacaspis pinifoliae)	S
18	May '58	Troy R. S.	?	"	Spruce needle miner (Taniva albolineana)	Spruce
38	7/22/58	Dodge & Young Crs.(T.37N.,R.28W.)	G. Verdal	"	D-fir bark beetle	DF
43	July '58	N.E. of Eureka (T.37N.,R.24W.)	D. F. Williams	"	Looper	AF
49	Aug. '58	Bristow Cr. (T.32N.,R.29W.)	R. Lockhart	"	Blackheaded budworm	H & AF **
49	12/9/57	Rexford R. D.	G. A. Verdal	"	Moth (Laspeyresia fletcherana)	DF

Table 2.--Forest insect detection reports submitted to the Missoula Forest Insect Laboratory in 1958 (continued)

Report no.[1] or source	Date of examination	Locality	Observer	Agency[2]	Causal Agent	Host[3]
		LEWIS & CLARK N. F., MONTANA				
AR	8/8/58	Spring Coulee, Dry Wolf, Running Wolf Crs., Middle Fork Judith R., So. Fork Judith R.	R. Miller	USFS	Spruce mites	DF
AR	8/12/58	Whitetail Deer Cr. & Decker Gulch	W. H. Sundell	"	Spruce budworm	DF
		LOLO N. F., MONTANA				
1	1/6/58	T.24N., R.27W.	I. Puphal & C. Blake	"	D-fir bark beetle	DF
41	7/29/58	Belmont Ridge(T.14N.,R.16W.)	C. Westcott	"	Spruce budworm	DF **
42	7/23/58	Lochsa R. dr. & Bear Mt. Tr.	J. Puckett	"	Spruce budworm	WF **
		NEZPERCE N. F., IDAHO				
AR	9/30/58	Selway R. & Clear Cr.	K. W. Spelman	"	D-fir bark beetle & western pine beetle	DF PP
60	12/15/58	S.Fork Clearwater R. (T.30N., R.364E.)	J. R. Lyman	"	Western pine beetle	PP
AR	9/17/58	Slaughter Gulch & Rapid R.	District Ranger	"	Ips oregoni	PP
FR	8/11/58	N. Fk. Whitebird Cr.	J. Morrison	"	D-fir bark beetle	DF **

Table 2.--Forest insect detection reports submitted to the Missoula Forest Insect Laboratory in 1958 (continued)

Report no.[1] or source	Date of examination	Locality	Observer	Agency[2]	Causal Agent	Host[3]
		ST. JOE N. F., IDAHO				
AR	10/20/58	Avery-Roundtop-Calder R. D.	C. J. Miller	USFS	Engelmann spruce beetle	ES
AR	10/20/58	Bird Cr. to Gold Cr.	"	"	D-fir bark beetle	DF
AR	10/20/58	Bird, Turner, Bluff, Bottle Crs.	"	"	Mt. pine beetle	WWP
		FLATHEAD INDIAN RESERVATION				
16	5/26/58	Bassoo Sale Unit	W. H. Welton	USBIA	Scarabidae beetle	DF
		IDAHO (PRIVATE LANDS)				
2	Jan. '58	So. of Harrison (N.E. $\frac{1}{4}$ Sec. 7, T.47N., R.3W.)	A. L. Lynn	WPA	Scolytus ventralis	DF
5	Mar. '58	Between Arrow Junction & Kendrick	C. Deward & R. Baldwin	PFI	Grasshoppers	PP
32	June '58	Windy Bay on Hayden Lake	G. Pederson	P	D-fir bark beetle	DF
33	June '58	Pine Cr. (T.43N.,R.5W.,Sec.5)	C. J. Miller	USFS	Sawfly (Neodiprion)	DF
M	8/8/58	Atlas Tie Co., Coeur d'Alene	J. Vandenberg	"	Horntails	Lumber
6	Mar. '58	Kingston, Idaho	F. H. Whiteman	P	Aphid eggs	DF

Table 2.--Forest insect detection reports submitted to the Missoula Forest Insect Laboratory in 1958 (continued)

Report no.[1] or source	Date of examination	Locality	Observer	Agency[2]	Causal Agent	Host[3]
		MONTANA (PRIVATE LANDS)				
7	3/14/58	Columbia Falls, Montana	D. Allen	P	Pine needle scale	S
10	4/22/58	320 W. Central, Missoula	E. Erickson	P	Pine needle scale	S *
11	5/7/58	1409 Gerald Ave., Missoula	R. Semrau	P	Pine needle scale	S
12	5/15/58	E. of Gardiner, Montana	C. Marsh	USFS	Mealybug	S
19	May '58	Stanford, Montana	I. Schmitt	P	Large black aphid	Pine ?
20	6/4/58	N. Hubbard Reservoir (T.26N.,R.25W.,Sec.29)	O. A. Miller	P	Dichelonyx backii Scarab beetle	DF
21	June '58	Little Bitterroot R. (T.25N.,R.24W.,Sec.31)	B. Calvin	GPC	Dichelonyx backii	Larch
24	6/4/58	Cooper's Lake	Mr. Thisted	P	Spruce mites	DF **
25	6/8/58	W. Shore Flathead Lake	B. Brennan	P	Scarab beetles	DF
27	6/4/58	Arlee, Montana	J. Fink	P	Cerambycid beetle	Logs
29	5/23/58	Gardiner, Montana	E. J. Eggen	USFS	Mealybug	S
35	7/9/58	Twin Bridges, Montana	J. W. Venrick	"	Spruce gall aphid	Blue S
40	7/26/58	Below junction Clearwater R. & Blackfoot R. (T.14N.,R.14W.)	T. T. Terrell	"	Larch sawfly	Larch *

Table 2.--Forest insect detection reports submitted to the Missoula Forest Insect Laboratory in 1958 (continued)

Report no.[1] or source	Date of examination	Locality	Observer	Agency[2]	Causal Agent	Host[3]
		MONTANA (PRIVATE LANDS) (cont.)				
52	Aug. '58	Swan River (T.23N.,R.17W.)	R. W. Arnold	P	D-fir bark beetle	DF *
L	10/6/58	Thompson Falls, Montana	N. Fullerton	P	Scarab beetles & squash bugs	--
M	6/25/58	Wales Cr. (T.13N.,R.12W.)	T. T. Terrell	USFS	Spruce budworm	DF *
		M. S. U. FOREST NURSERY				
22	6/4/58	Missoula	D. D. Baldwin	MSFD	Needle mining moth (undetermined)	Juniper *
		IDAHO (STATE & PRIVATE)				
3	2/26/58	Latah & Clearwater Counties	J. Castles	USFS	Pine needle scale & black pine leaf scale	PP
12A	5/8/58	St. Maries N. to Sandpoint	R. E. Denton	"	Larch casebearer	Larch *
45	7/31/58	Clearwater T.P.A.(T.36N.,R.4E.)	M. Koppang	CTPA	Mt. pine beetle	WWP **
		WASHINGTON (STATE & PRIVATE)				
13A	5/8/58	Deer Park & vicinity, Wash.	R. E. Denton	USFS	Larch casebearer	Larch *

KEY TO ABBREVIATIONS IN TABLE TWO

1/

M = memo
AR = annual report
FR = field report
L = letter

* = area surveyed on the ground by Laboratory personnel
** = area surveyed from the air by Laboratory personnel

2/

USFS = United States Forest Service
USBIA = United States Bureau of Indian Affairs
WPA = Western Pine Association
PFI = Potlatch Forests, Incorporated
P = private individual
GPC = Glacier Park Company
MSFD = Montana State Forestry Department
CTPA = Clearwater Timber Protective Association

3/

DF = Douglas-fir
WWP = western white pine
PP = ponderosa pine
ES = Engelmann spruce
LPP = lodgepole pine
AF = alpine fir
H = hemlock
WF = white fir
S = spruce (ornamentals)
GF = grand fir

Table 3.--List of cooperating agencies submitting forest insect detection reports to the Missoula Forest Insect Laboratory in 1958

Agency		No. of reports
U. S. Forest Service		
National Forests:	Beaverhead	1
	Bitterroot	1
	Clearwater	2
	Coeur d'Alene	7
	Colville	3
	Custer	4
	Deerlodge	2
	Flathead	2
	Gallatin	9
	Helena	1
	Kaniksu	2
	Kootenai	8
	Lewis and Clark	2
	Lolo	3
	Nezperce	4
	St. Joe	3
U. S. Bureau of Indian Affairs		1
Western Pine Association		1
Potlatch Forests, Incorporated		1
Private individuals		12
Glacier Park Company		1
Montana State Forestry Department		1
Clearwater Timber Protective Association		1
	Total	72

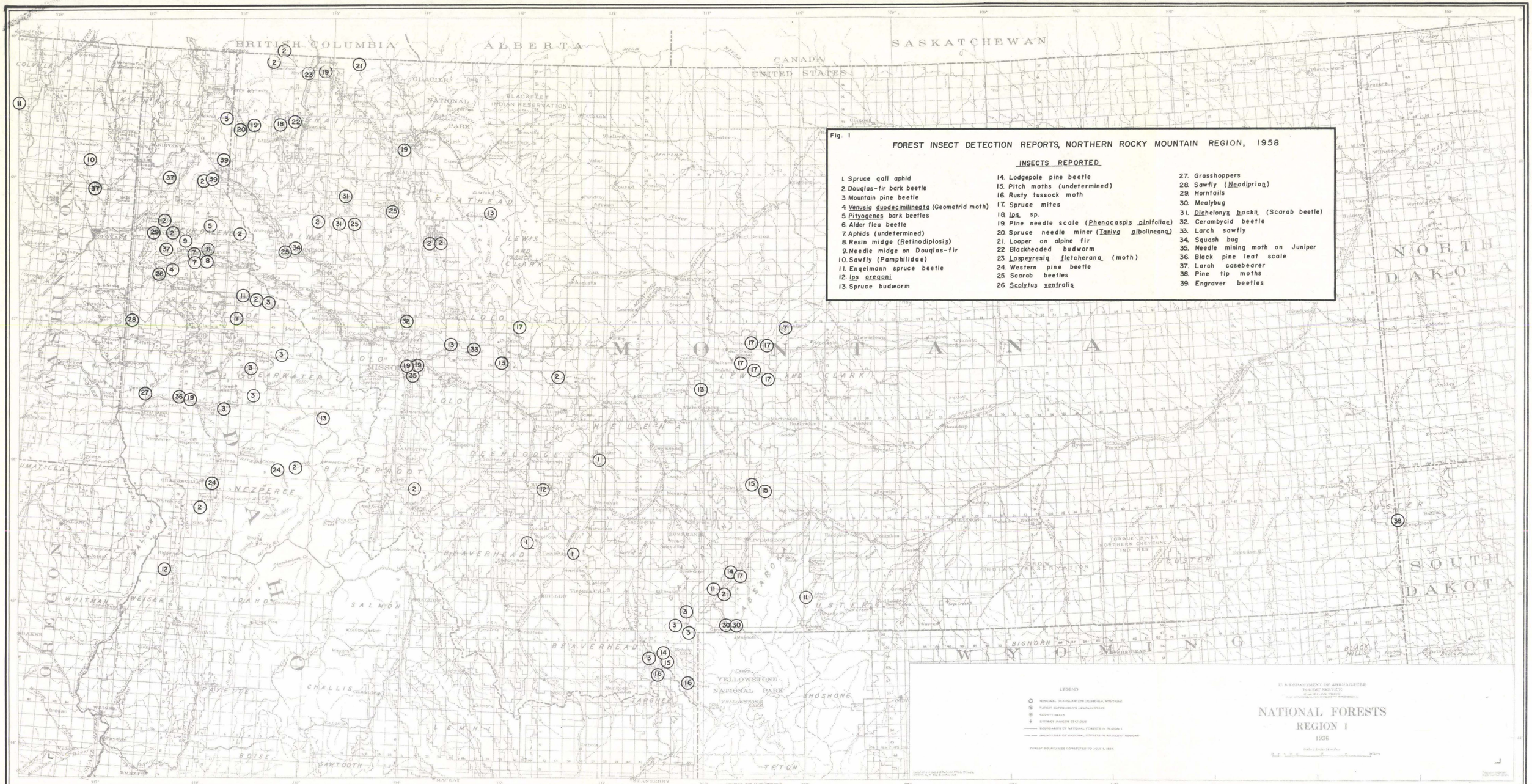

Fig. 1

FOREST INSECT DETECTION REPORTS, NORTHERN ROCKY MOUNTAIN REGION, 1958

INSECTS REPORTED

1. Spruce gall aphid
2. Douglas-fir bark beetle
3. Mountain pine beetle
4. Venusia duodecimilineata (Geometrid moth)
5. Pityogenes bark beetles
6. Alder flea beetle
7. Aphids (undetermined)
8. Resin midge (Retinodiplosis)
9. Needle midge on Douglas-fir
10. Sawfly (Pamphilidae)
11. Engelmann spruce beetle
12. Ips oregoni
13. Spruce budworm
14. Lodgepole pine beetle
15. Pitch moths (undetermined)
16. Rusty tussock moth
17. Spruce mites
18. Ips sp.
19. Pine needle scale (Phenacaspis pinifoliae)
20. Spruce needle miner (Taniva albolineana)
21. Looper on alpine fir
22. Blackheaded budworm
23. Lospeyresia fletcherana (moth)
24. Western pine beetle
25. Scarab beetles
26. Scolytus ventralis
27. Grasshoppers
28. Sawfly (Neodiprion)
29. Horntails
30. Mealybug
31. Dichelonyx backii (Scarab beetle)
32. Cerambycid beetle
33. Larch sawfly
34. Squash bug
35. Needle mining moth on Juniper
36. Black pine leaf scale
37. Larch casebearer
38. Pine tip moths
39. Engraver beetles